

AMENDMENT UNDER 37 C.F.R. § 1.116
U.S. Appln. No. 09/242,490

that each of the grooves forms an ink induction path.

E2
cont.

27. (Once amended) An ink supply passage structure according to claim 20, wherein the protrusion is formed of material having ink affinity.

REMARKS

Claims 1-27 have been examined, and claims 20-27 have been rejected under 35 U.S.C. § 102(b) or § 102(e). Also, the Examiner has allowed claims 1-19.

I. Objection to the claims

The Examiner has objected to claims 24, 26, and 27 because they contain minor errors. Applicants submit that the amendments to the claims overcome the objection.

II. Rejection under 35 U.S.C. § 102(e) over U.S.P. 5,812,165 to Boyd et al. ("Boyd")

Claims 20-26 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Boyd.

A. Claim 20

Applicants submit that claim 20 is not anticipated (and would not have been obvious over) Boyd. For example, the claim relates to a structure that comprises a first ink supply path having a first open end. Also, the first ink supply path axially terminates at the first open end. In

Webster's New World Dictionary (second college edition), the term "axially" is an adverb that means "in the direction or line of the axis"¹. Thus, claim 20 states that the first ink supply path terminates at the first open end when referenced in a direction along the axis of the ink supply path.

On page 3 of the Office Action, the Examiner contends that the lateral ink channel 38b and aperture 44 shown in Fig. 2 of Boyd respectively disclose the first ink supply path and the first open end recited in claim 20. However, Applicants submit that the Examiner is misinterpreting and/or misapplying the teachings of the reference.

For example, as shown in Fig. 2, the lateral ink channel 38b axially terminates at a position that is substantially to the left of the aperture 44. Therefore, the channel 38b does not axially terminate at the aperture 44 as maintained by the Examiner. As a result, the channel 38b and the aperture 44 do not disclose or suggest the claimed first ink supply path and the claimed first open end. Accordingly, Applicants submit that claim 20 is patentable over Boyd.

B. Claim 21

Since claim 21 depends upon claim 20, Applicants submit that it is patentable at least by virtue of its dependency.

¹ A copy of the relevant page of the dictionary is enclosed.

C. Claim 22

Applicants submit that claim 22 is patentable over Boyd. For example, the claim states that the protrusion and/or groove axially extends between the first and second ink supply paths across the first open end of the first ink supply path. The Examiner contends that the grooves 50, aperture 44, channel 38b, and passage 40b shown in Figs. 2 and 5 of the reference respectively correspond to the claimed protrusion and/or groove, the claimed first opened end, the claimed first ink supply path, and the claimed second ink supply path. However, Applicants submit that the Examiner is misinterpreting and/or misapplying the teachings of the cited reference.

For example, as clearly shown in Fig. 5, the grooves 50 are contained only in the passage 40b, terminate at the aperture 44, and do not enter into the passage 38b. Thus, the grooves 50 do not axially extends between the channel 38b and the passage 40b across the aperture 44 of the channel 38b.

In light of the discussion above, Applicants submit that claim 22 is not anticipated and would not have been obvious over Boyd. Also, since claim 22 depends upon claim 20, Applicants submit that it is patentable at least by virtue of its dependency.

D. Claims 23-26

Since claims 23-26 depend upon claim 20, Applicants submit that they are patentable at least by virtue of their dependency.

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III. Rejection under 35 U.S.C. § 102(b) over U.S.P. 4,368,478 to Koto (“Koto”)

Claims 20-22 and 24-27 have been rejected under 35 U.S.C. § 102(b) as being anticipated by Koto.

A. Claim 20

Applicants submit that claim 20 is not anticipated (and would not have been obvious over) Koto. For example, claim 20 relates to a structure comprising a first ink supply path and a second ink supply path. Also, a protrusion and/or groove is provided to the second ink supply path, and the cross sectional area of the second ink supply path is at least as large as the cross sectional area of the first ink supply path.

The Examiner seems to contend that the portion of the chamber 55 occupied by the member 54 corresponds to the claimed first ink supply path and that the portion of the chamber 55 to the right of the member 54 corresponds to the claimed second ink supply path. However, Applicants submit that the Examiner is misinterpreting and/or misapplying the teachings of Koto.

For example, as shown in Fig. 3 of Koto, the ink guide passages 56 (1) are not provided in the portion of the chamber 55 occupied by the member 54 (i.e. are not provided in the alleged first ink supply path) and (2) are only provided in the portion of the chamber 55 to the right of the member 54 (i.e. are only provided in the alleged second ink supply path). As shown in Fig. 5, the cross sectional area of the alleged second ink supply path is smaller than the cross sectional area of the alleged first ink supply path due to the space occupied by the ink guide

passages 56.

Accordingly, Figs. 3 and 5 of Koto does not suggest that the cross sectional area of the second ink supply path is at least as large as the cross sectional area of the first ink supply path as recited in claim 20. As a result, Applicants submit that claim 20 is not anticipated (and would not have been obvious over) the embodiment disclosed in Figs. 3 and 5 of the reference.

In addition, Applicants submit that claim 20 is patentable over the remaining embodiments of Koto. For example, in the embodiments shown in Figs. 9A and 9B, the cross sectional area of the alleged second ink supply path is smaller than the cross sectional area of the alleged first ink supply path for reasons that are similar to the reasons presented above in conjunction with Fig. 5. Also, the embodiment shown in Fig. 9C suggests using fibers 94 instead of grooves in the portion of the chamber 55 that is not occupied by the member 54. Thus, the Fig. 9C embodiment does not suggest a second ink supply path having a protrusion and/or groove as recited in claim 20. In fact, if a protrusion and/or groove is provided to the alleged second ink supply path in Fig. 9C, it would not have the claimed cross sectional area for the reasons presented above.

B. Claims 21, 22, and 24-27

Since claims 21, 22, and 24-27 depend upon claim 20, Applicants submit that they are patentable at least by virtue of their dependency.

IV. Allowable subject matter

The Examiner has allowed claims 1-19.

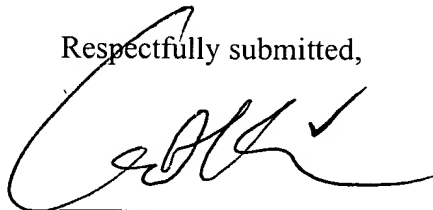
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V. Conclusion

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

Applicants hereby petition for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

A handwritten signature in dark ink, appearing to read 'Grant K. Rowan', is written over a horizontal line. The signature is stylized with a large initial 'G' and a checkmark at the end.

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APPENDIX

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

24. (Once amended) An ink supply passage structure according to claim 20, further comprising:

a filter located [at an] opposite said axial terminus of the second ink supply path.

26. (Once amended) An ink supply passage structure according to claim 20, wherein a plurality of [grooves] grooves are arranged along an inner circumference of the second ink supply path so that each of the grooves forms an ink induction path[-].

27. (Once amended) An ink supply passage structure according to claim 20[;], wherein the protrusion is formed of material having ink affinity.

subject/ 6. from one's possession [to give away a secret/ 7. out of existence (the sound faded away) 8. at once [fire away] 9. without stopping; continuously [he worked away all night] 10. into action or movement [away we go!]

adj. 1. not present; absent; gone [he is away] 2. at a distance [a mile away] 3. not played on the home team's field [an away game] 4. (having one's golf ball) in a position to be played first because it lies farthest from the cup 5. *Baseball* out [one away in the last half of the 4th] —**interj.** 1. begone! 2. let's go! —**away with** 1. take away 2. go or come away Used generally as an imperative expression without a verb —do away with 1. to get rid of; put an end to 2. to kill —where away? in what direction? said of something being sighted from a ship

awe (ə) *n.* [ME. *age*, *aghe*, *awe* < ON. *agi* < IE. base **agh-*, to be depressed, afraid, whence OE. *ege*, Goth. *agis*, Gr. *achos*] 1. a mixed feeling of reverence, fear, and wonder, caused by something majestic, sublime, sacred, etc. 2. [Archaic] the power of inspiring intense fear or fearful reverence 3. [Obs.] terror; dread —*u.* *awed*, *aw'ing* to inspire awe in; fill with awe —stand (or be) in awe of to respect and fear

SYN.—awe refers to a feeling of fearful or profound respect or wonder inspired by the greatness, superiority, grandeur, etc. of a person or thing and suggests an immobilizing effect; reverence is applied to a feeling of deep respect mingled with love for something one holds sacred or inviolable and suggests a display of homage, deference, etc.; veneration implies worshipful reverence for a person or thing regarded as hallowed or sacred and specifically suggests acts of religious devotion; dread, as it comes into comparison here, suggests extreme fear mixed with awe or reverence [a dread of divine retribution]

a-wear-y (ə wɪr'ē) *adj.* [Poet.] weary; tired (of)

a-weather (ə weth'ər) *adv.* [*A* + WEATHER] *Naut.* in the direction from which the wind is blowing; at or to windward

a-weigh (ə wē) *adj.* [*A* + WEIGH] *Naut.* clearing the bottom; being weighed: said of an anchor

awe-less, **aw-less** (ə'lis) *adj.* feeling no awe

awe-some (ə'səm) *adj.* [AWE + -SOME] 1. inspiring awe

2. showing awe —*awe'some-ly* *adv.* —*awe'some-ness* *n.*

awe-struck (ə'struk') *adj.* filled with awe: also *awe-strick'en* (-strɪk'ən)

aw-ful (ə'fʊl) *adj.* [ME. *awful*, *agheful*: see AWE & -FUL]

1. inspiring awe; highly impressive 2. causing fear; dread-

ful; terrifying; appalling 3. full of awe; reverential 4. [Colloq.] a) very bad, ugly, unpleasant, etc. [an awful joke] b) great [an awful bore] —*adv.* [Colloq.] very;

extremely —*aw'ful-ness* *n.*

aw-ful-ly (ə'fʊl-lē, ə'fʊl-ē) *adv.* 1. in a way to inspire awe

2. [Colloq.] in a bad or offensive way [to behave awfully]

3. [Colloq.] very; very much; extremely

a-while (ə wɪl', -hwɪl') *adv.* [ME. < OE. *ane hwile*, a while] for a while; for a short time

awk-ward (ɔk'wɔrd) *adj.* [ME. *aukward* < ON. *ofugr*,

turned backward + OE. *-weard*, -WARD] 1. not having

grace or skill; clumsy, as in form or movement; bungling

[an awkward dancer, an awkward style] 2. inconvenient to

use; hard to handle; unwieldy [an awkward tool] 3. incon-

venient; uncomfortable; cramped [an awkward position]

4. showing or resulting from lack of social poise; embar-

assed or embarrassing [an awkward remark] 5. not easy

to deal with; delicate [an awkward situation] 6. [Obs.]

perverse or untoward —*awk'ward-ly* *adv.* —*awk'ward-*

ness *n.*

SYN.—awkward implies unfit for smooth, easy functioning

and has the broadest application of the terms here, suggesting

ungracefulness, unmanageableness, inconvenience, tactlessness,

embarrassment, etc. [an awkward implement, step, position,

remark, etc.]; clumsy, emphasizing stiffness or bulkiness, suggests

a lack of flexibility or dexterity, unwieldiness, etc. [a clumsy build,

clumsy galoshes]; maladroit and inept both imply tactlessness in

social relations, maladroit often emphasizing this as a tendency

and inept stressing inappropriateness of a particular act or remark

—**ANT.** deft, handy, graceful

awl (ɔl) *n.* [ME. *alle*, *awel* < OE. *xl*, *awel* < IE. base **xlā*,

whence Sans. *āṛṣ*, OHG. *āls*, ON. *āl*] a small, pointed

tool for making holes in wood, leather, etc.

awl-wort (ɔl'wɜrt') *n.* a small water plant (*Subularia*

aquatica) of the mustard family, bearing clusters of awl-

shaped leaves around the root

awn (ɔn) *n.* [ME. *awne* < ON. *agn* (pl. *agnir*) < IE. **aken*

(< base **ak*, sharp), whence OE. *egenu*, Goth. *ahana*, L. *agrus*] any of the bristly fibers on

a head of barley, oats, etc., or, usually, such

fibers collectively; beard —*awned* *adj.*

—*awn-less* *adj.*

awn-ing (ɔ'nɪŋ) *n.* [*A* + ? MFr. *awpans*, pl. of

auvent, cloth shade for store window + -ING] a

structure of canvas, metal, etc. extended

before a window or door or over a patio,

deck, etc., as a protection from the sun or rain

a-woke (ə wɔk') *alt. pl. and occas. Brit. pp.* of AWAKE

a-wok-en (ə wɔk'n) *occas. Brit. pp.* of AWAKE

A-WOL, **a-wol** (ə'wɔl') *adj.* [A(BSENT)

W(ITH)O(UT) L(EAVE)] same as ABSENT WITH-

OUT LEAVE —*n.* one who is AWOL

a-wry (ə ri') *adv.* [*A* + WRIT: see *A* + WRIT]

wry 1. with a twist to a side; not straight; askew 2.

wrong; amiss [our plans went awry]

ax, **axe** (aks) *n.*, *pl.* *ax'es* [ME. < OE. *ax*, *ax* < IE. base

**agw(e)s*, whence Goth. *agis*, Gr. *axinē*, L. *ascia*] 1. a tool

for chopping trees and splitting wood: it has a long wooden

handle and a metal head with a blade usually on only one

side 2. any similar tool or weapon, as a battle-ax, head-

man's ax, etc. —*u.* *axed*, *ax'ing* 1. to trim, split, etc.

with an ax 2. to cut off, remove, get rid of, etc. —get the

ax [Colloq.] 1. to be executed by beheading 2. to be

discharged from one's job —have an ax to grind [Colloq.]

to have an object of one's own to gain or promote

ax 1. axiom 2. axis

ax-el (aks'el) [Sw.] a masculine name

ax-e-nic (ə zē'nɪk, -zē'nɪk) *adj.* [*A* + XEN(O) + -IC]

devoid of all living organisms except those of a single species

[an axenic culture medium]

ax-es (aks'ez) *n.* *pl.* of AX

ax-es' (aks'ez) *n.* *pl.* of AXIS

ax-i-al (aks'ē-əl) *adj.* 1. of or like an axis 2. forming an

axis 3. around, on, or along an axis

axial flow the flow of air parallel to the longitudinal axis

of the engine of a jet aircraft

ax-i-al-ly (aks'ē-əl-lē) *adv.* in the direction or line of the axis

axial skeleton in vertebrates, the skull, vertebral column,

sternum, and ribs without the arms and legs

ax-il (aks'il) *n.* [*A* + L. *axilla*, AXILLA] the upper angle formed

by a leaf, twig, etc. and the stem from which it grows

ax-ile (aks'il, -sil) *adj.* [AX(IS) + -ILE] *Bot.* in or of the axis

axile placentation *Bot.* placentation in an ovary consisting

of several carpels whose edges are folded in to form a

round structure of tissue at the middle on which the ovules

are borne

ax-il-la (aks'il-lə) *n.*, *pl.* -il-lae (-ē), -il-las [L., armpit: see

AXIS] 1. the armpit 2. *Bot.* an axil

ax-il-lar (aks'il-lər) *adj.* same as AXILLARY —*n.* one of the

stiff feathers on the underside of a bird's wing where it

joins the body

ax-il-la-ry (aks'il-lər-ē) *adj.* [Fr. *axillaire*] 1. *Anat.* of or

near the axilla 2. *Bot.* of, in, or growing from an axil

—*n.* same as AXILLARY

ax-i-ol-o-gy (aks'ē-ol-ə-jē) *n.* [*A* + Gr. *axios*, worthy (see *fi.*)

+ -LOGY] the branch of philosophy dealing with the nature

of value and the types of value, as in morals, aesthetics,

religion, and metaphysics —*ax'i-o-log'i-cal* (-ə-lāj'i-kəl)

adj. —*ax'i-o-log'i-cal-ly* *adv.*

ax-i-om (aks'ē-əm) *n.* [Fr. *axiome* < L. *axioma* < Gr.

axiōma, authority, authoritative sentence < *axiōn*, to

think worthy < *axios*, worthy < base of *agein*, to weigh]

1. a statement universally accepted as true; maxim 2. an

established principle or law of a science, art, etc. 3. *Logic*,

Math. a statement that needs no proof because its truth is

obvious; self-evident proposition [Euclid's axiom that

things equal to the same thing are equal to each other]

ax-i-o-mat-ic (aks'ē-mat'ik) *adj.* [Gr. *axiōmatikos*] of or

like an axiom; self-evident or aphoristic —*ax'i-o-mat'i-*

cal-ly *adv.*

ax-is (aks'is) *n.*, *pl.* *ax'es* (-ēz) [L., axle, axis < IE. base

**aks-* (< **ag-*, to drive), whence OE. *ax*, ON. *axull*, Gr.

axōn, L. *axilla*] 1. a real or imaginary straight line on which

an object rotates or is regarded as rotating [the axis of a

planet] 2. a real or imaginary straight line around which

the parts of a thing, system, etc. are symmetrically or

evenly arranged or composed [the axis of a picture] 3. a

main line of motion, development, etc. 4. an alignment

between countries, groups, etc. for promoting their pur-

poses 5. *Aeron.* any of three straight lines, the first running

lengthwise through the center of the body of a flight

vehicle, the second at right angles to this in the plane of

symmetry, and the third perpendicular to the first two

at their point of intersection 6. *Anat.* a) the second

cervical vertebra b) any of various axial or central parts

7. *Bot.* a) the main stem of a plant b) the central system

of a cluster 8. *Geom.* a) a straight line through the center

of a plane figure or solid, esp. one around which the parts

are symmetrically arranged b) a straight line for measure-

ment or reference, as in a graph: see also ABSCISSA, ORD-

NATE 9. *Optics* a) a straight line through the centers of both

surfaces of a lens b) a straight line from the object of

vision to the fovea of the eye —the Axis the countries

aligned against the United Nations in World War II: originally applied to Nazi Germany and Fascist Italy

(Rome-Berlin Axis), later extended to include Japan, etc.

(Rome-Berlin-Tokyo Axis)

ax-is' (aks'is) *n.* [L.] any of a subgenus (*Axis*) of small,

white-spotted deer of India and southern Asia, with slender,

sparsely branched antlers

ax-le (aks'el) *n.* [ME. *axel* (only in comp. *axeltre*): see *fi.*]

1. a rod on which a wheel turns, or one connected to a wheel

so that they turn together 2. a) a bar connecting two

opposite wheels, as of an automobile b) the spindle at

either end of such a bar

ax-le-tree (-trē) *n.* [ME. *axeltre* < ON. *axultre* < *axull*,

axle (see AXIS) + *tre*, beam, TREE] a bar connecting two

opposite wheels of a carriage, wagon, etc.

Ax-min-ster (aks'mɪn stər) *n.* [after Axminster, town in

SW England, where it was first made by hand] a type of

carpet with a cut pile, woven in various colors and

patterns



AWN